

ADF



Saskatchewan Agriculture
Development Fund

Varieties of grain crops for Saskatchewan 1992



The Saskatchewan Agriculture Development Fund (ADF)

is the provincial funding agency for agri-food related research, development and demonstration projects in Saskatchewan.

ADF is an integral part of the Saskatchewan Department of Agriculture and Food and operates to fund, co-ordinate and facilitate agri-food activities from research and production to processing and demonstrations.

ADF supports crop variety development activities at the University of Saskatchewan and the Crop Development Centre as part of the Strategic Funding Agreement. A new five-year agreement was recently signed totalling \$17.5 million.

In addition, ADF has contributed \$211,100, through its demonstration program, to the Regional Spring Grain Variety Trials conducted throughout the province by University of Saskatchewan.

The printing of this publication and its distribution is paid for by ADF.

The Saskatchewan Agricultural Services Coordinating Committee (SASCC)

is the agency which coordinates agricultural research and extension activities in Saskatchewan.

SASCC has a system of advisory councils representing the major subject areas: extension, economics, forage crops, grain crops, soils and agronomy, crop protection, horticulture, agriculture and food engineering, food production and marketing, animal health, animal production, and agricultural meteorology. The advisory councils are further divided to cover specific subject areas. For example, the Advisory Council on Agricultural and Food Engineering works through sub-councils on power and machinery, structures and environment, soils and water, and food process engineering.

The Advisory Council on Grain Crops is responsible for the

recommendations in the **Varieties of Grain Crops for Saskatchewan** publication as well as other recommendations for grain crop production. The council, like all others, makes recommendations on research and extension to SASCC. The membership on the council is made up of representatives from: Agriculture Canada, Saskatchewan Agriculture and Food, University of Saskatchewan, Crop Development Centre, Saskatchewan Wheat Pool, Saskatchewan Rural Development, Canadian Seed Trade Association, Saskatchewan Seed Grower's Association, and farmers.

The Advisory Council on Grain Crops gratefully acknowledges the contribution of Agriculture Canada, University of Saskatchewan, the Crop Development Centre and all other researchers involved in the research and analysis which comprise the recommendations in this publication.

Contributing Agencies



**Agriculture
Canada**



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and Food**

Soils and Crops
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Grain Crop Production Areas

The cropland of Saskatchewan has been divided into four areas based roughly on climate, vegetation and soil type. The relative yields of crop varieties tend to vary from area to area. In choosing a variety a farmer will want to consider the yields in his area and special requirements such as early maturity, disease resistance or sawfly resistance.

Area 1: Drought is a definite hazard and high winds are common. Sawfly outbreaks often occur in this area. Cereal rust may

be a problem in the southeastern section.

Area 2: Drought and sawflies may be problems in the western and central sections of the area. Cereal rust may be a problem in the southeastern section.

Area 3: Drought is not as likely to be a problem in this area, particularly in the east. Cereal rust may occur in the eastern portion. The frost-free period can be fairly short in the northwestern and northeastern sections.

Area 4: Rainfall is usually adequate for crop production. However, early fall frosts and wet harvest weather are frequent problems.

The dividing lines do not represent distinct changes over a short distance. The change from one area to another is gradual.

Cereal Crops

Wheat

Main Characteristics of Varieties

Variety	Irr**	Area 1	Area 2	Area 3	Area 4	Average Maturity in Days	Resistance to**						Root Rot
							Shat- Lodging	Stem terring	Rust	Leaf Rust	Loose Smut	Bunt	
Yield as % of Katepwa													
Bread Wheat													
Katepwa 100		100	100	100	100	98	G	G	VG	F	G	G	F
Benito*		94	95	95	97	97	G	G	G	G	G	F	F
Columbus*		98	101	101	97	102	G	F	G	VG	F	VG	F
Conway 100		101	98	97	97	98	G	G	G	P	G	F	F
Kenyon 98		97	96	97	95	98	G	G	VG	VG	G	F	F
Laura 89		103	104	104	103	100	G	G	G	G	F	P	G
Leader		95	95	-	-	100	F	F	G	F	F	G	P
Lancer		94	94	-	-	100	F	VG	G	G	G	G	F
CDC													
Makwa 102		102	104	101	101	98	G	G	G	F	G	F	F
AC Minto 97		103	103	104	102	100	G	G	VG	G	VG	G	F
Neepawa		99	100	99	98	98	G	VG	G	P	G	F	F
Pasqua 100		104	103	104	101	99	G	G	G	VG	F	F	F
Roblin 89		92	89	93	92	97	VG	G	G	VG	G	P	G
CDC Teal 88		98	94	101	99	98	VG	G	VG	G	G	F	F
Canada Prairie Spring Wheat													
Biggar* 121		121	118	121	120	102	G	G	G	G	VP	VP	F
Cutler			93	102	88 ***	98	G	G	G	P	F	VP	F
Genesis* 115		123	125	127	125	102	F	VG	G	F	F	VP	F
Oslo 99		96	101	102	97	98	G	G	G	G	P	F	F
AC Taber* 121		121	120	123	121 ***	103	G	G	VG	G	P	G	F
Canada Western Utility													
Bluesky		93	89	93	95	99	G	G	G	F	VG	F	G
Glenlea		95	105	108	110	101	G	G	G	G	VG	F	G
Wildcat		85	82	87	91	98	G	G	G	P	VG	VP	G
Yield as % of Kyle													
Durum Wheat													
Kyle 100		100	100	100	100	103	F	VG	VG	VG	P	VG	F
Arcola 115		92	93	97	96	99	G	VG	VG	VG	F	VG	F
Medora 105		96	96	97	37	100	G	VG	VG	VG	F	VG	F
Plenty 114		104	109	111	108	102	G	VG	VG	VG	P	VG	G
Sceptre 107		97	97	99	100	100	G	VG	VG	VG	F	VG	G
Wakooma 88		92	97	97	97	102	F	VG	VG	VG	F	VG	G
Wascana		96	96	95	90	101	F	VG	VG	VG	F	VG	F

*These varieties are variable in maturity and may mature later under cool conditions.

**Resistance ratings: VG — very good; G — good; F — fair; P — poor; VP — very poor.

***Relative yield based on less than three years of data in Area 4.

*This variety will not be described in 1993.

**Relative yields under irrigation are based on limited data.

- No data available.

Comments

Seed of varieties rated poor and very poor to bunt and loose smut should be treated. Please refer to the Seed Treatment section of this pamphlet or

Seed Treatments and Foliar

Fungicides, 1992 pamphlet. During wet harvest weather grades drop more rapidly due to sprouting in swathed than in standing crops.

Canada Western Red Spring Wheat

AC Minto has high yield potential and matures about two days later than **Katepwa**. It has very good resistance to stem rust and loose smut, good resistance to leaf rust and common bunt, and fair resistance to common root rot. It is slightly taller than **Katepwa**. Limited quantities of certified seed of **AC Minto** may be available in 1992.

CDC Teal has very good resistance to stem rust, good resistance to leaf rust and loose smut, and fair resistance to bunt. **CDC Teal** is intermediate to **Katepwa** and **Roblin** for maturity, height, and straw strength. Certified seed of **CDC Teal** will not be available in 1992.

Conway has performed well in the Brown soil zone. **Conway** has poor leaf rust resistance and is not suited for the eastern Prairies.

Columbus has good leaf rust resistance and has better sprouting and weatheng resistance than the other varieties except **Leader** and **Lancer**. **Columbus** is late maturing and must be sown early, particularly in Area 4.

Katepwa is similar to **Neepawa** but has better stem and leaf rust resistance and is easier to thresh.

Kenyon is similar to **Neepawa** and has very good leaf and stem rust resistance.

Laura has high yield potential and matures about two days later than **Katepwa**. **Laura** has an awned head and good shattering resistance.

CDC Makwa is higher yielding than **Katepwa** and has a similar time to maturity. It has good resistance to stem rust and loose smut; and fair resistance to leaf rust, common bunt, and common root rot.

Pasqua has performed well in all areas. It has good resistance to leaf rust and stem rust; and fair resistance to loose smut, common bunt, and common root rot. **Pasqua** is slightly shorter and stronger strawed than **Katepwa** and slightly later maturing than **Katepwa**. Limited quantities of certified seed of **Pasqua** may be available in 1992. It is sprouting tolerant intermediate to **Katepwa** and **Columbus**.

Under drought stress grain yield of **Roblin** can be reduced more than other varieties. **Roblin** is early maturing and has strong straw making

it best suited to northern areas. Generally, **Roblin** has higher protein content than other cultivars.

Leader and **Lancer** are resistant to wheat stem sawfly. **Lancer** has better resistance to wheat stem sawfly, seed shattering and root rot than **Leader**.

Canada Prairie Spring Wheat

AC Taber has very good resistance to stem rust, good resistance to leaf rust and common bunt. It is similar in many respects to **Biggar** except that it is slightly taller and later in maturity. Certified seed will not be available in 1992. **AC Taber**, **Biggar**, **Cutler**, and **Oslo** are red-seeded.

Biggar is a high yielding, awned, semi dwarf wheat. Both **AC Taber** and **Biggar** are late maturing and must be sown early particularly in Area 4.

Cutler is lower yielding than **Katepwa** and has a similar time to maturity. Certified seed will not be available in 1992.

Oslo is similar in maturity to **Katepwa** and lower yielding than **Biggar**.

Genesis is white-seeded and sprouts similar to durum wheat under wet harvest conditions. It is high yielding and late maturing. **Genesis** is slightly taller and weaker strawed than **Katepwa**. It is best suited to Areas 1 and 2.

Canada Western Utility

Bluesky and **Wildcat** are earlier maturing than **Glenlea** and lower yielding.

Canada Western Amber Durum

All durum varieties are susceptible to two new races of loose smut. Seed can be treated to provide control. See the **Seed Facts** section for details.

Arcola, **Medora** and **Sceptre** are early maturing and have short, strong straw.

Kyle has high yield potential but is a little tall and late maturing, making it best suited to the Brown and Dark Brown soil zones.

Plenty has performed well in all areas. It is similar to **Kyle** in height, but is stronger strawed and slightly earlier maturing.

Sceptre is the shortest, strongest-strawed durum variety, and has

performed well under both dryland and irrigated conditions.

Soft White Spring Wheat

SWS-52 is about 5 days later maturing and stronger strawed than **Fielder**. **SWS-52** has moderate resistance to black point, bunt, powdery mildew and shattering. They are both susceptible to loose smut and sprouting of the grain before harvest. **Fielder** is susceptible to bunt. **SWS-52 will be deregistered in 1993 and after that time will be eligible only for Canada Feed grade.**

Winter Wheat

Winter survival is the chief factor limiting winter wheat production in Saskatchewan. However, with proper management successful production is possible. This means that, in most years, some form of snow trapping is necessary in most of Saskatchewan to ensure overwintering.

Norstar is the most winter-hardy variety of winter wheat available.

Norwin is a semi-dwarf variety. It has very short, strong straw. Its winter hardiness and yield are inferior to **Norstar**. **Norwin** should be grown only under low winter stress, high moisture conditions where lodging and excessive straw production are problems.

CDC Kestrel is a tall semi-dwarf variety that was registered in 1991. Its yield has been equal to **Norstar** under drought conditions often associated with the no-till management used to overwinter winter wheat in Saskatchewan. Shorter, stronger straw makes **CDC Kestrel** better adapted than **Norstar** to high moisture environments and irrigation. **CDC Kestrel** has stem rust tolerance that is superior to **Norstar**. **CDC Kestrel** is taller, higher yielding, and more winter hardy than **Norwin**. Seed of **CDC Kestrel** will not be available in 1992.

AC Readymade is a medium tall, strong straw variety that was registered in 1991. **AC Readymade** is less winter hardy than **Norwin** and lower yielding than both **Norstar** and **CDC Kestrel**. Seed of **AC Readymade** will not be available in 1992.

Barley

Main Characteristics of Varieties

Type & Variety	2 or 6 row	Rough or Smooth Awns	Irr Yield as % of Duke	Yield as % of Harrington					Average Maturity in Days	Resistance to*								
				Area 1	Area 2	Area 3	Area 4	Lodging		Shattering	Net Blotch	Stem Rust	Loose Smut	Other Smuts	Root Rot			
Malting																		
Harrington	2	R	-	100	100	100	100	92	G	VG	P	P	P	P	VP	G		
Argyle	6	S	-	92	92	96	93	91	VG	VP	F	G	P	P	VP	G		
Bonanza	6	S	-	93	91	93	93	89	G	VP	F	G	P	P	P	G		
B1602	6	R	-	89	93	94	87	90	G	P	F	G	P	P	F	VG		
Tankard	6	S	-	98	101	103	96	92	G	VG	F	G	P	P	P	G		
Manley	2	R	-	99	106	105	105	94	G	VG	F	G	P	P	P	G		
Feed																		
Abee	2	R	-	101	104	104	100	94	P	VG	P	P	P	P	F	G		
Bridge	2	R	-	109	105	108	96	93	G	VG	P	F	P	P	P	F		
Brier	6	S	-	119	108	111	104	92	F	F	G	VG	P	P	G	VP		
Deuce	2	R	-	97	98	99	98	92	G	VG	F	G	P	P	G	G		
CDC																		
Guardian	2	R	-	95	101	103	102	93	F	G	G	G	VG	P	VG	F		
AC																		
Lacombe	6	S	-	100	103	109	91	92	F	F	F	G	P	P	VG	F		
Noble	6	S	-	99	101	103	98	92	G	G	F	G	P	P	F	P		
Virden	6	S	-	106	105	108	108	95	VG	G	F	G	P	P	F	VG		
Hulless																		
CDC Buck	6	R	-	80	81	84	78	90	G	F	F	G	P	P	F	G		
CDC Richard-2	2	R	-	76	93	92	83	91	F	F	P	G	VG	F	P	G		
Condor	2	R	-	84	83	82	78	92	G	G	P	F	P	P	P	G		
Intensive Management																		
Duke	6	R	100	92	90	91	88	93	VG	F	F	G	VG	P	F	G		
Samson	6	R	95	91	86	87	85	92	VG	F	F	G	P	P	F	G		
Winchester	6	R	94	97	85	87	90	90	VG	F	G	P	VG	P	G	G		

*Resistance ratings: VG — very good; G — good; F — fair; P — poor; VP — very poor.

Comments

A new race of stem rust which attacks all of our previously resistant varieties has appeared in the eastern prairies and the northern great plains. It is not yet clear how persistent this race will be over time. Early sowing is the only practical measure which can be taken at this time.

None of the current two-rowed varieties have good field resistance to all races of net blotch. Therefore, growers who must plant barley on barley stubble should select six-rowed varieties which are more tolerant.

None of the available varieties are resistant to all three types of smut. Therefore, seed should be treated on a regular basis. See the Seed Facts section for details.

In hulless varieties the hull is left in

the field, therefore comparable yields are 10-15% lower. Hulless seed is more susceptible to damage than hulled seed, so handling should be minimized. Markets for hulless barley have not been clearly defined but it should be valuable for hog feed, pet food and human consumption.

CDC Guardian is a new two-rowed feed variety with excellent disease resistance. It combines resistance to the old races of stem rust, net blotch, scald and surface borne smuts. It has moderate resistance to root rot and is susceptible to loose smut.

AC Lacombe is a new six-rowed feed variety with excellent yield, good straw strength and disease resistance.

Noble is a six-rowed variety. It has yielded well in drier locations. It has good lodging and shattering

resistance. **Virden** is a six-rowed feed variety. It has a very high yield potential but is very late. It has very good straw strength. **Brier** is a six-rowed feed variety. It has very good yield potential and good disease resistance. **AC Stacey** is a new early maturing 6-row feed variety. While it is slightly better than **Jackson**, it is still 10-20% lower yielding than **Harrington**. **Bridge** is a new two-rowed feed variety with good yielding ability; it is slightly later than **Harrington** with similar disease resistance.

Manley is a new two-rowed malting variety with very good yield potential and better disease resistance than **Harrington**. It has moderate resistance to the spot-form of net blotch. **Manley** is later maturing than

Harrington and should be sown early. Manley has completed plant scale malting and brewing trials and has been rated as acceptable by the Brewing and Malting Barley Research Institute. Growers are reminded, however, that the industry is very cautious about moving into the use of new varieties. **B1602** has also been judged to have suitable malting and brewing quality. It is a six-rowed white aleurone variety and thus cannot be distinguished from feed varieties. Therefore, it should only be grown under contract. Saskatchewan tests have shown it to be slightly lower yielding than **Bonanza**, otherwise similar to it. Growers are cautioned that malting varieties, especially two rows, are very susceptible to sprouting.

Harvesting grain over 16% moisture and then using aeration bins for drying can lead to sprouting and embryo death. Seed with reduced germination is undesirable for seeding or malting purposes.

Irrigation

Under irrigation, disease resistance, straw strength and maturity are more critical. Growers should select early, strong-strawed, disease resistant varieties.

Samson, Duke and Winchester are semidwarf feed varieties. They should be grown only under high moisture, high fertility conditions which would cause severe lodging of conventional varieties. High productivity tests in Saskatchewan have shown **Duke** to outyield **Samson** and **Winchester**. **Duke** is 1-2 days later than **Samson** and **Winchester** is 1-2 days earlier.

Lines under Interim Registration for Evaluation of malting and Brewing Quality

Small scale tests are a good measure of malting potential but are not sufficient to determine the commercial acceptability of malting varieties. Final acceptance is given only after two

years of successful plant scale evaluation. Several carload lots of barley are malted and subsequently brewed. The beer is then given the ultimate test — a taste panel. This process will normally take a minimum of three years. Crop grown in 1991 will be malted in January-February, 1992. It will be brewed in May-June, 1992, aged and tested in October-November, 1992. A crop grown in 1992 will be tested in October-November, 1993. To facilitate this testing "Interim Registration" has been established as a special category. This registration is granted for one year at a time renewable for a total of three years. It allows seed increase and marketing in a normal manner but automatically expires if performance of the line is not satisfactory. If performance is satisfactory then a full registration is granted. Production of the carload lots for evaluation is done by contract through the Canadian Wheat Board. **The following lines are currently under test:**

Lines under Interim Registration

Main Characteristics of Lines

Type and Line	Yield as a % of Harrington				Average Maturity in Days	Resistance to*						
	Area 1	Area 2	Area 3	Area 4		Lodging	Shat-tering	Net Blotch	Loose Smut	Other Smuts	Root Rot	Stem Rust
Two Row												
B1215	103	104	107	100	93	 G	G	P	P	P	P	P
TR118	95	102	100	91	93	 VG	G	F	P	F	F	G
Stein	103	106	107	107	92	 G	G	F	P	F	G	G
AC Oxbow	93	96	99	98	92	 G	VG	F	VG	G	F	G
Six Row												
Duel	93	98	100	93	92	 G	VP	G	P	P	G	G
Creme	89	92	98	85	91	 G	VP	F	P	P	G	G
BT926	90	88	98	85	91	 G	F	P	VP	G	G	G

*Resistance ratings; VG — very good; G — good; F — fair; P — poor; VP — very poor.

Comments:

TR118 is a new two-rowed malting variety. Its performance and quality are similar to **Harrington**. It has very strong straw. Its most interesting feature is sprouting resistance.

Stein has higher yield potential, and better disease resistance than

Harrington. **B1215** is similar in performance and disease reaction to **Harrington**, **AC Oxbow** is lower yielding than **Harrington** but has good disease resistance. It is the only variety with loose smut resistance.

Duel is a blue aleurone six-row with superior yield to **Bonanza** and **Argyle**.

Creme is of interest because it has a white aleurone. It may be suitable for the US market for white aleurone six-row.

Oat

Main Characteristics of Varieties

Variety	Yield as % of Calibre				Test wt. (kg/hl)	% Hull	% Plump	Average Maturity in days	Resistance to*			
	Area 1	Area 2	Area 3	Area 4					Lodging	Stem Rust	Leaf Rust	Smut
Calibre	100	100	100	100	50.0	22.9	44	93	G	VP	VP	P
Cascade	104	99	99	98	47.4	26.0	48	92	G	VP	VP	P
Derby	101	99	100	104	50.1	22.2	74	93	G	VP	VP	F
Dumont	96	98	96	95	48.8	23.5	64	94	F	VG	VG	G
Jasper***	93	90	92	93	50.0	22.5	42	89	F	VP	VP	P
AC Marie**	100	99	101	100	45.5	20.7	35	94	F	VG	VG	G
Robert	94	95	92	94	48.5	22.5	87	93	VG	VG	VG	G
Waldern	97	100	104	107	45.7	25.0	74	94	G	VP	VG	F

*Resistance ratings: VG — very good; G — good; F — fair; P — poor; VP — very poor.

**Less than 3 years data available in Area 4.

***This variety may not be described in 1993.

Comments

AC MARIE is a new variety with excellent disease resistance and is thus adapted to south-east Saskatchewan. It has good yield potential and very low hull content, however it has low test weight and poor grain plumpness, both of which are not desirable for milling and specialty markets. It is also later maturing than Calibre. Certified seed of **AC Marie** will not be available in 1992.

Calibre has high yield potential and superior kernel quality, having very high test weight and low percent hull.

Cascade has high yield potential but poorer kernel quality being lower in test weight with higher hull content.

Cascade is one to two days earlier maturing than **Calibre**.

Derby has high yield potential and test weight, but plumper grain and lower hull content than **Calibre**. It is slightly earlier than **Calibre** but not as early as **Cascade**.

Dumont has excellent disease resistance and good kernel quality, however it has weaker straw and lower yield potential and is one to two days later maturing than **Calibre**. **Dumont** should be considered for use in the oat rust-area of southeastern Saskatchewan.

Jasper is an earlier maturing variety with kernel quality similar to **Calibre**, however its yield potential is considerably lower.

Robert has tan colored grain. It has very good kernel quality and disease resistance, however, yield potential is generally lower than other varieties available. **Robert** has somewhat better tolerance to Barley Yellow Dwarf Virus than other varieties.

Waldern has high yield potential and large grain size. However, it has very low test weight and high hull content and as such is not as likely to be desirable for milling and specialty markets. It is later maturing than **Calibre**.

Calibre, **Cascade**, **Derby**, **Jasper** and **Waldern** are susceptible to oat-rusts and may be at risk if grown in the oat-rust area of southeast Saskatchewan.

Rye

Main Characteristics of Varieties

Variety	Yield as % of Musketeer				Resistance to*				
	Area 1	Area 2	Area 3	Area 4	Winter Killing	Shat- tering	Lodging	Stem Smut	Straw Length
Musketeer	100	100	100	100	G	G	G	G	Tall
Prima	110	110	106	108	G	G	F	G	Tall
Puma	95	99	97	94	G	G	F	P	Tall

*Resistance ratings: VG — very good; G — good; F — fair; P — poor; VP — very poor.

Comments

Gazelle is the only registered variety of spring rye.

Danko, a new variety, is very susceptible to winter killing.

Triticale

Main Characteristics of Varieties

Variety	Yield as % of Frank				Average Maturity in Days	Resistance to*				
	Area 1	Area 2	Area 3	Area 4		Lodging	Stem Rust	Leaf Rust	Bunt	Root Rot
Frank	100	100	100	100	105	G	VG	VG	VG	F
Wapiti	95	102	101	83	107	G	VG	VG	VG	G
Banjo	96	100	104	95	107	G	VG	VG	VG	G

*Resistance ratings: VG — very good; G — good; F — fair; P — poor; VP — very poor.

Comments

Triticale matures 3-5 days later than **Biggar** wheat therefore, should be seeded as early as possible. **Triticale** matures very late in Area 4. Seed of **Banjo** will not be available in 1992.

Oilseed Crops

Canola

Main Characteristics of Varieties

Type & Variety					Average Maturity in days	Resistance to*			
	Area 2	Area 3	Area 4	% Oil		Lodging	White Rust	Blackleg**	Sclerotinia Stem Rot
Yield as % of Westar									
Argentine									
Westar	100	100	100	42.9	96	F	VG	VP	P
Alto	101	96	98	42.8	96	F	VG	VP	P
Bounty	117	106	105	42.4	97	G	VG	P	P
Celebra	110	99	97	43.3	101	VG	VG	F	P
Delta	122	107	106	41.7	99	VG	VG	F	P
AC Excel	108	98	99	43.4	98	G	VG	F	P
HC 120	109	112	105	43.0	98	G	VG	P	P
Hyola 401	132	110	98	42.4	99	VG	VG	P	P
Legend	110	101	101	42.2	98	G	VG	F	P
Profit	104	91	91	44.0	99	F	VG	F	P
Vanguard	110	94	102	42.7	98	G	VG	F	P
AC Tristar (TT)	86	77	78	41.3	98	P	VG	VP	P
Stallion (TT)	91	72	75	40.3	100	G	VG	F	P
Tribute (TT)	68	67	70	39.5	97	VP	VG	VP	P

Industrial Oil Rapeseed

Hero (HE) 101 81 81 43.7 96 VG VG G P

Yield as % of Tobin

Polish									
Tobin	100	100	100	41.5	85	G	G	P	P
Colt	103	99	97	42.3	87	G	VP	P	P
Eclipse	102	96	96	42.7	87	G	F	P	P
Eldorado	102	101	96	42.6	86	G	P	P	P
Goldrush	103	101	108	41.3	87	G	G	P	P
Horizon	105	101	102	42.2	87	G	VP	P	P
AC Parkland	102	101	104	43.0	87	G	VG	P	P
Reward	102	99	102	42.9	86	G	VG	P	P

TT = Triazine tolerant; HE = High erucic acid.

*Resistance ratings: VG — very good; G — good; F — fair; P — poor; VP — very poor.

**A minimum of 3 years between canola crops (4 year rotation) is essential to reduce the incidence of blackleg.

Comments

Argentine varieties yield, on average, 20% more seed than Polish varieties, and mature in approximately 100 days. These varieties are best suited to the longer season growing areas of central Saskatchewan. Polish varieties mature 10 to 14 days earlier than Argentine varieties, and are therefore well adapted to the short season growing areas of northern Saskatchewan. Under conditions of drought or early fall frost, which shorten the growing period, the yield of Polish varieties can be equal to or greater than that of Argentine varieties. Polish varieties are also less likely to produce green seed.

Argentine canola

Argentine varieties are black seeded and have very good white rust resistance, but are highly susceptible to sclerotinia stem rot. **Blackleg, which is now widespread in Saskatchewan, can cause severe yield losses in Argentine varieties that have very poor resistance.** **Westar** and **Alto** are highly susceptible to blackleg and will suffer severe yield losses if grown in blackleg prone areas. **Bounty** has high yield and good straw strength, its blackleg resistance is poor. **Celebra** has high

oil content, has very good straw strength and fair blackleg resistance but tends to mature later. **Delta** has high yield, low oil content and fair blackleg resistance. **AC Excel** has high oil content and fair blackleg resistance. **HC 120** has high yield, high oil content, and poor blackleg resistance. **Hyola 401** has high yield, very good straw strength, and poor blackleg resistance. **Legend** and **Vanguard** have fair blackleg resistance. **Profit** has also fair blackleg resistance and very high oil content.

Argentine type varieties respond well to irrigation, but blackleg susceptible varieties should be avoided since irrigation may increase the incidence of blackleg. Irrigation might delay maturity by one week or more under cooler conditions at harvest.

Triazine tolerant canola

AC Tristar, Stallion and Tribute are triazine tolerant (TT) varieties. Their seed yields under weed free conditions, are substantially lower than that of other Argentine varieties. They also have significantly lower oil contents. These varieties should only be considered for planting on fields where severe infestations of stinkweed and/or wild mustard weeds are

expected. For registered herbicides, consult "Weed Control in field and forage crops 1992". **AC Tristar** and **Tribute** have very poor blackleg resistance. **Stallion** has fair blackleg resistance.

Polish canola

Polish varieties are yellow-brown seeded. They all have poor blackleg and sclerotinia stem rot resistance. **Tobin** is early maturing, has low oil content and good white rust resistance. **AC Parkland** and **Reward** have very good white rust resistance; **Coit** and **Horizon** have very poor, and **Eldorado** has poor resistance to white rust. **Goldrush** has low oil content and good white rust resistance, while **Eclipse** has fair resistance. A new race of white rust, found in 1988, can attack all Polish type varieties.

Industrial oil rapeseed

For special industrial oil markets, a high erucic acid oil is needed. **Hero** is a high erucic (HE) acid variety that has high oil content, good blackleg resistance and very good straw strength. Information on the contract production of **Hero** should be obtained from companies which contract such production.

Flax

Main Characteristics of Varieties

Variety	Irr	Yield as % of NorLin				Average Maturity in Days	Seed Size	Resistance to*		
		Area 1	Area 2	Area 3	Area 4			Rust	Wilt	Lodging
NorLin.....	100	100	100	100	100	101	Medium	VG	G	G
Andro.....	89	97	88	94	91	100	Medium	VG	F	G
Flanders.....	100	96	107	101	104	102	Small	VG	G	VG
McGregor**.....	100	97	96	98	93	103	Small	VG	G	VG
NorMan**.....	98	104	98	98	93	101	Medium	VG	G	G
Somme.....	98	99	101	104	100	101	Medium	VG	G	F-G
Vimy.....	86	110	104	101	98	101	Large	VG	G	F

*Resistance ratings: VG — very good; G — good; F — fair; P — poor; VP — very poor.

**These varieties may not be described in 1993.

Comments

Andro is an early-maturing, rust-resistant variety that should replace the old rust-susceptible variety **Noralta**.

Flanders is a new variety that is

expected to be a high yielding replacement for **McGregor**. Limited quantities of certified seed may be available in 1992.

McGregor is a high yielding but

later maturing variety. It has better straw strength than other varieties and should be considered for irrigation in areas where maturity is not a problem.

NorLin is high yielding and earlier

maturing than **McGregor**. **NorLin's** good straw strength also makes it a good choice for irrigation.

NorMan is a medium-late variety with similar characteristics to **NorLin**.

Somme is a new medium-early

maturing variety that may replace **NorLin**.

Vimy is a medium-late variety with large seed that is very well adapted to Areas 1, 2, and the southern portion of Area 3.

Frozen flax should be analyzed by the Saskatchewan Feed Testing Laboratory to determine that it is free of prussic acid before using it as a livestock feed.

Condiment Mustard

Main Characteristics of Varieties

Type & Variety	Yield as % of Cutlass	Average Maturity in days
Oriental		
Cutlass	100	92
Forge	96	94
Lethbridge 22A	88	93
Brown		
Commercial ¹	89	94
White		
Ochre	100	93
Gisilba	95	93
Kirby	99	92
Tilney	97	93

Comments

Mustard is grown in the drier regions of the province because of the better seed quality obtained under these conditions. Oriental and Brown mustards are usually swathed, but straight combining is also possible. White mustard should be straight combined because of possible losses due to wind damage to the fluffy swath. Any mixtures of rapeseed or canola in mustard, due to volunteer plants in the field or to improper handling on the farm, cause substantial losses through grade reductions.

Oriental mustard varieties are yellow seeded. **Cutlass** is high yielding and early maturing. **Forge** has good yield and superior seed quality. **Lethbridge**

22A is low yielding and susceptible to lodging. **Cutlass** and **Lethbridge 22A** are resistant to white rust, while **Forge** is highly susceptible.

Commercial Brown mustard is brown seeded. It yields 10% less than **Cutlass** and is highly susceptible to white rust.

White mustard varieties are large seeded and the seed is light yellow in colour. They yield, on average, 30% less than the Oriental mustard variety **Cutlass**. **Ochre** and **Kirby** are high yielding while **Gisilba** and **Tilney** yield less.

All mustard varieties are resistant to blackleg.

Differences in yield between the types is normally compensated for by price.

Sunflower (oilseed)

Main Characteristics of Varieties

Variety	Yield as % of IS 7111	Average Maturity in days	Oil %
IS 7111	100	120	47.6
IS 7000	99	119	47.5
DO 855	107	121	46.4
DO 707	118	122	46.0
S 1296	106	122	46.2
6322	123	122	47.5

Comments

Sunflower requires 110-125 days to mature, depending on the cultivar and the growing season. Oilseed sunflower has traditionally been grown in the Dark Brown and Black soil zones in southeastern Saskatchewan. The introduction of early maturing varieties and continued research may expand the production area north. Later maturing hybrids have been grown but should be considered only in the extreme southeast of Saskatchewan

and at Outlook. Contractors and crushers may pay a premium for high oil content. The Saskatchewan Sunflower Committee conducted tests at Saskatoon, Watrous, Brownlee and Outlook.

Environment Canada Weather Information (24 hours each day, seven days a week)

Recorded weather information

- Regina 780-5744
- Saskatoon 975-4266
- Prince Albert 929-2114

Weatheradio

- continuous up-to-the-minute forecasts and reports
- transmitted over VHF-FM radio
- VHF-FM — 162.400 MHz
— 162.475 MHz
— 162.550 MHz
- there are presently 9 broadcasting stations; call Environment Canada weather office for more details

Public phone numbers

- Regina 780-6674, staffed 24 hrs.
- Saskatoon 975-4255, staffed 24 hrs.
- Prince Albert 953-8640,
Mon.-Sat., 5 a.m.-6:30 p.m.
Sun., 8 a.m.-4 p.m.

Pulse Crops

Field Pea

Main Characteristics of Varieties

Variety	Seed Color (yellow or green)	Yield as % of Century		Average Maturity in Days	Vine length (cm)	Resistance to*				Seed Weight (g/1000)
		Area 2 and Southern 3	Area 4 and Northern 3			Ascochyta Blight	Powdery Mildew	Seed Coat Breakage		
Century	Y	100	100	101	106	P	P	F	230	
AC Tamor**	Y	113	109	99	57	VP	VG	G	280	
Bellevue	Y	104	105	104	87	P	P	G	180	
Bohatyr**	Y	106	120	97	73	F	VP	G	270	
Danto	G	92	73	98	52	P	P	F	290	
Express	Y	121	131	95	62	P	VP	P	240	
Fortune	Y	118	120	104	69	P	VP	F	200	
Miranda	Y	91	103	95	44	P	VP	P	350	
Patriot**	Y	107	119	93	73	F	VP	F	210	
Princess	G	100	91	92	58	P	P	G	200	
Radley	G	101	113	96	57	F	VP	F	210	
Tara	Y	117	118	102	96	F	VG	F	210	
Tipu	Y	99	103	99	103	P	P	P	230	
Titan	Y	108	105	101	109	P	P	G	250	
Topper**	Y	120	115	97	102	VP	P	F	290	
Trapper	Y	105	112	100	95	P	P	F	140	
Trump**	G	124	107	98	63	P	VP	F	250	
Victoria	Y	106	120	96	84	P	VP	F	190	
Yellowhead**	Y	120	114	103	107	VP	VP	G	250	

*Resistance ratings: VG — very good; G — good; F — fair; P — poor; VP — very poor.

** Limited data

Comments

Field pea is best adapted to the more northerly Black and Gray soil zones. Early seeding will usually result in late August maturity and increase the likelihood of harvesting high quality seed. Seed splitting may be reduced by harvesting pea tough and drying in an aeration bin. The recommended seeding rate for **Trapper** is 135 kg/ha (120 lb/ac). Other varieties should be sown at higher rates in proportion to seed weight.

Under dry conditions, **AC Tamor**, **Danto**, **Express**, **Miranda**, **Patriot**, **Princess**, **Radley**, **Tipu** and **Trump** could provide poor weed competition, due to their short vines and/or semi-leafless characteristic. As well, short vines make harvesting more difficult. On the other hand, the semi-leafless

characteristic of **Danto**, **Patriot**, **Radley** and **Tipu** has the advantage of facilitating harvest, as vines do not lay as flat on the ground.

Danto, **Princess**, **Radley** and **Trump** are green seeded varieties for which there is a higher risk of low grades due to bleaching.

Of the new varieties **AC Tamor**, **Bohatyr**, **Patriot**, **Topper**, **Trump** and **Yellowhead**, certified seed may not be available in 1992, except for **Yellowhead**. However Woodstone Foods Ltd., of Portage La Prairie, has exclusive rights to **Yellowhead** and it can only be grown under contract with this company.

Damaged and uncleaned seed of all varieties may be utilized for feed purposes, but some varieties are of lower quality and are only suitable for

the feed market. When growing field pea for feed, one should select a high-yielding variety, such as **Tara**. **Sirius**, **Stegholt** and **Whero** are newly-registered feed varieties and only limited yield data are available. Small seed size is desirable for reducing the cost of seeding feed varieties, but **Stegholt** has very large seed.

Provided that adequate moisture is available, the field pea, like other legumes, offers considerable benefit when grown in rotation with other crops. Proper seed inoculation results in symbiotic nitrogen fixation which reduces input costs by supplying most of the nitrogen required by a productive pea crop. In addition, succeeding crops require less nitrogen fertilizer to attain high yields. See seed inoculation section.

Lentil

Main Characteristics of Varieties

Variety	Yield as % of Laird	Height (cm)	Days to First Flower	Resistance to *		Seed Size	Seeding Rates kg/ha(lb/A)
				Ascochyta Blight	Anthracnose		
Laird	100	41	51	F	P	Large	90-100 (80-90)
Eston	106	30	48	VP	VP	Small	45-50 (40-45)
Rose	95	32	47	VP	VP	Medium	60-70 (53-62)

* Resistance ratings: **VG** — very good; **G** — good; **F** — fair; **P** — poor; **VP** — very poor

Comments

Lentil is best adapted to the Brown, Dark Brown and southernmost areas of the Black soil zones. It has about the same growing season requirement as durum wheat. However, lentil has an indeterminate growth habit and some stress is required during flowering to stimulate heavy pod set. A nitrogen stress can be induced by seeding early on cereal stubble. A drought stress occurs naturally during most years in the Brown and Dark Brown soil zones or can be induced by early seeding on light soils in the Black soil zone.

Young lentil plants can tolerate a light frost; a heavier frost will kill the tops, but they will regrow from axillary buds at or below the soil surface. Thus lentil can and should be seeded early, even earlier than wheat and as soon as the soil temperature at seeding depth exceeds 5°C. Early seeding is

also important from the standpoint of reducing the hazard from early fall frosts which severely damage immature seeds. Lentil will not tolerate flooding or salt-affected soils.

Lentil plants are short (30-45 cm) and must be swathed close to the ground using a pick-up reel. Thus, they should be seeded on a smooth, rock-free seedbed to facilitate swathing.

Three lentil varieties have been developed for Western Canada. **Laird** is a tall, late-maturing variety with extra-large seeds and has become the industry standard for quality. **Laird** has fair resistance to ascochyta leaf, stem and pod blight. **Eston** is a short, erect, early-maturing variety with small seeds and is highly susceptible to ascochyta blight.

Laird and **Eston** have yellow cotyledons, while **Rose** has red cotyledons. **Rose** seed is flat and splits poorly, limiting its use in the red split

lentil market.

Indianhead, a black seeded lentil, is very late maturing and was developed as a green manure lentil. It has small seed which reduces the cost of establishment. The seeding rate is 39 - 44 kg/ha (35-40lbs/A).

Indianhead will produce an average yield if planted early and subjected to a drought stress in July and August.

Lentil producers should plant lentil seed that has been tested for seed-borne ascochyta and anthracnose and avoid planting next to the previous year's lentil residues. Growers from northern areas and pedigreed seed producers should use only disease-free seed (none-detected). In the drier areas up to 4% seed-borne ascochyta does not normally cause a problem. The risks associated with seed-borne anthracnose have not been fully determined.

Faba Bean

Main Characteristics of Varieties

Variety	Yield as % of Outlook	Average Maturity in Days	Seed Size
Outlook	100	109	small
Aladin	106	112	large
Orion	68	102	small
Pegasus	100	111	small

Comments

Faba bean should be seeded early (late April to early May). It is best adapted to irrigated areas in the Dark Brown Soil Zone and to that portion of the Black Soil Zone with the longest growing season.

Aladin and **Pegasus** are the highest yielding varieties under irrigation production. **Orion** is the

earliest maturing variety and is a good performer in areas with a short growing season.

Faba bean is a legume and thus is able to use nitrogen from the air provided the seed is inoculated with the proper bacteria prior to planting. Faba bean requires a special strain of inoculum which is different from other pulse crops.

Pinto Bean

Pinto bean can be grown under irrigation in Saskatchewan in regions that have a warm, long growing season (110 days). **Topaz**, **Fiesta** and **Othello** are registered varieties. For dryland production on summerfallow in the Dark Brown soil zone, **Othello** is recommended.

The crop does not tolerate frost, flooding or salt-affected soils. Seed in late May at 80-100 kg/ha (70-100 lb/A). Plant seed at 6cm depth in a firm, moist seedbed. Minimize seed damage by using a hoe or press drill with a metering mechanism suitable for large seeds.

The plants are short and pods may hang to ground level. The field should be smooth, level and rock-free to facilitate swathing or direct harvesting with a flex header equipped with an air reel. Seed should be free of common bacterial blight.

Other Crops

Canary Seed

The seed of annual canarygrass, more commonly called canary seed, is used as food for caged and wild birds. It is generally grown under contract with the contracting companies providing the seed. Two registered varieties are available. **Elias** and **Keet** are similar in yield, but **Keet** is earlier maturing and more resistant to lodging. The maturity requirements are equal to wheat. Canary seed plants have a dense shallow root system and thus growing the crop on sandy soils is not recommended. Summerfallow is generally used, but canary seed may

be grown successfully on well-prepared stubble, providing adequate moisture is available for rapid germination and emergence.

Sow early in May at 34 kg/ha (30 lb/A) (germination greater than 85 percent). Plant the seed 3.5 to 5 cm deep into a firm seedbed. A grain drill is recommended.

Fertilizer recommendations are similar to those for cereal crops. No serious insect or disease problems have been identified. Canary seed is very sensitive to diclofop methyl and trifluralin. It should not be seeded on land that was treated with trifluralin the previous year.

Canary seed is resistant to

shattering. It may be straight-combined or swathed when fully matured.

Safflower

Safflower is an annual oilseed or birdseed crop which can be grown successfully in the brown soil zone. Safflower must be sown early. **Saffire** matures in about 119 days. Seed shallow but into a firm moist seedbed at about 27 lbs/A. **Saffire** has moderate resistance to Sclerotinia head rot and Alternaria leaf spot. Contract production is advisable.

AC Stirling is a newly registered variety with acceptable birdfeed quality and higher oil content compared to **Saffire**. Seed is not available for 1992.

Seed Facts

Pedigreed Seed

Use certified seed regularly, and especially when changing to a different variety. This assures that the seed has high genetic purity, high germination and is relatively free from weeds and other crop seeds. Pedigreed seed may be paid for by an over-quota delivery of commercial grain. Ask your elevator agent or seed dealer for details.

Seed Cleaning

Seed should be carefully cleaned to remove weed seeds, trash, small or broken kernels, ergot and sclerotia. **Country grain elevators are not equipped to clean grain to seed standards, and the risk of mixing varieties and types of grain is very high.**

Seed Treatment

Smuts that attack wheat, barley, oat and rye can be controlled by chemical seed treatments. If bunt or smut was observed in a crop which is being used for seed it should be treated. Seed of susceptible varieties known to be free of smut or resistant cultivars should not require treatment. **If the presence of smut is uncertain then varieties rated VERY POOR should be treated every year, POOR every second year, and FAIR every third year.**

Only systemic fungicides (ie. containing carathiin) will control true loose smut of barley, and wheat and stem smut of rye because the pathogens are harbored within the seed. The other types of smut (covered, false loose, oat, and bunt) may be controlled by non-systemic seed treatments because the pathogen is borne on the outside of the seed. Examples of active ingredients of non-systemic seed treatments are maneb and formaldehyde. Formaldehyde may result in reduced seed germination. **Read the**

provincial publication "Seed Treatments and Foliar Fungicide Sprays for Cereal, Oilseed, Forage and Pulse Crops" for detailed instructions and recommended rates.

The virulent form of blackleg is now widespread on canola in Saskatchewan. Treatment of seed with a recommended fungicide can be beneficial to reduce the risk of disease and the risk of introducing the disease into unaffected areas. Growers with carryover stocks of treated seed should have these tested for germination.

Coating of canola with the appropriate seed dressing is a convenient alternative to on farm seed treatment.

Various fungicides have been registered for the control of seedling disease. Flax, canola, rye, and winter wheat seed should be treated to promote good seedling growth.

Wireworms, which attack all grain crops and flea beetles, which attack canola and mustard, can be controlled by seed treatment with insecticides. Read the label carefully and follow all directions.

Treated seed must not be allowed to contaminate grain delivered to an elevator or used for feed.

Ergot

Ergot attacks all varieties of rye, triticale, wheat and barley, as well as most common species of grass. Oat is rarely attacked and all broadleaved species are immune. Grain containing 0.1% ergot is considered poisonous and should not be used as food. For details on the disease obtain a copy of 'Ergot of Grains and Grasses'. Publ. 1438.

Seed Inoculation

Legume crops are only able to fix atmospheric nitrogen if their roots are well nodulated with nitrogen-fixing bacteria. Whenever a legume is planted in a field it is important that the seed be inoculated with the proper strain of nitrogen-fixing bacteria

immediately before seeding. The use of a sticker such as a syrup solution or a powdered milk solution will help assure proper inoculation.

Seed-borne Diseases of Lentil

Lentil producers should plant lentil seed that has been tested for seedborne ascochyta and anthracnose and avoid planting next to the previous year's lentil residue. See lentil section for suggested tolerances.

Damp and Frozen Seed

Seed which is stored damp or tough may be low in germination. Grain which is being saved for seed should be dried if necessary, soon after harvest. Drying temperature should be kept below 37°C for batchdriers, or 43°C for recirculating and continuous driers. Frozen grain should never be sown without a laboratory germination test. There is frequently a high percentage of abnormal seedlings which may be unnoticed by an inexperienced observer.

Production Notes

All classes of wheat including durum and triticale are susceptible to wheat midge. Farmers in the infested areas should be prepared to spray these fields with recommended insecticides if necessary. Refer to **Orange Wheat Blossom Midge** Publication.

Residue of infected crops may harbour disease agents. Seeding into stubble of the same crop kind may increase disease risk, particularly in the higher rainfall areas.

Inspect fields weekly for the presence of Russian wheat aphid. Infested plants will show white or purple longitudinal stripes. Biology and control of this aphid are described in the leaflet "Russian Wheat Aphid".

Breeding Institutions and Seed Distributors of Varieties Listed in This Publication

Crop Kind, Class & Variety	Breeding Institution	Distributor
Wheat		
Bread Wheat		
Benito	Ag Canada (Winnipeg)	SeCan Members
Columbus	Ag Canada (Winnipeg)	SeCan Members
Conway	Univ. of Sask. —	
	Crop Development Centre	Sask Wheat Pool
Katepwa	Ag Canada (Winnipeg)	SeCan Members
Kenyon	Univ. of Sask. —	
	Crop Development Centre	SeCan Members
Laura	Ag Canada (Swift Current)	SeCan Members
Leader	Ag Canada (Swift Current)	SeCan Members
Lancer	Ag Canada (Swift Current)	SeCan Members
CDC Makwa	Univ. of Sask. —	
	Crop Development Centre	SeCan Members
AC Minto	Ag Canada (Winnipeg)	SeCan Members
Neepawa	Ag Canada (Winnipeg)	public
Pasqua	Ag Canada (Winnipeg)	SeCan Members
Roblin	Ag Canada (Winnipeg)	SeCan Members
CDC Teal	Univ. of Sask. —	
	Crop Development Centre	Value Added Seeds Inc.
Canada Prairie Spring Wheat		
Biggar	Ag Canada (Swift Current)	SeCan Members
Cutler	Univ. of Alberta	United Grain Growers
Genesis	Ag Canada (Swift Current)	SeCan Members
Oslo	NAPB; Sask Wheat Pool	Sask Wheat Pool
AC Taber	Ag Canada (Swift Current)	SeCan Members
Canada Western Utility		
Bluesky	Ag Canada (Beaverlodge)	SeCan Members
Glenlea	Univ. of Manitoba	public
Wildcat	Ag Canada (Beaverlodge)	SeCan Members
Durum		
Arcola	Univ. of Sask. —	
	Crop Development Centre	SeCan Members
Kyle	Ag Canada (Swift Current)	SeCan Members
Medora	Ag Canada (Winnipeg)	SeCan Members
Plenty	Univ. of Sask. —	
	Crop Development Centre	SeCan Members
Sceptre	Univ. of Sask. —	
	Crop Development Centre	SeCan Members
Wakooma	Ag Canada (Swift Current)	public
Wascana	Ag Canada (Swift Current)	public
Soft White Spring Wheat		
Fidler	Idaho State Univ. & USDA;	
	Ag Canada (Lethbridge)	public
SWS-52	Ag Canada (Lethbridge)	SeCan Members
Winter Wheat		
CDC Kestrel	Univ. of Sask. —	
	Crop Development Centre	SeCan Members
Norstar	Ag Canada (Lethbridge)	public
Norwin	Montana Ag Exp. Station & USDA	
	(Aberdeen); Univ. of Sask. —	
	Crop Development Centre	public
AC Readymade	Ag Canada (Lethbridge)	SeCan Members
Winter Rye		
Danko		Alberta Wheat Pool
Musketeer	Ag Canada (Swift Current)	SeCan Members
Prima	Ag Canada (Swift Current)	SeCan Members
Puma	Univ. of Manitoba	public
Spring Rye		
Gazelle	Univ. of Sask.	public
Triticale		
Banjo	Univ. of Manitoba	Value Added Seeds Inc.
Frank	Ag Canada (Swift Current)	SeCan Members

Crop Kind, Class & Variety	Breeding Institution	Distributor
Wapiti	CIMMYT; Alta Ag	SeCan Members
Barley		
Malting		
Argyle	Univ. of Manitoba	SeCan Members
Bonanza	Ag Canada (Brandon)	public
B1215	Busch Ag. Res. Inc.	Alberta Wheat Pool
B1602	Busch Ag. Res. Inc.	Sask Wheat Pool
Crene	Univ. of Sask. —	
	Crop Development Centre	United Grain Growers
Harrington	Univ. of Sask. —	
	Crop Development Centre	SeCan Members
Manley	Univ. of Sask. —	
	Crop Development Centre	SeCan Members
Tankard	Univ. of Sask. —	
	Crop Development Centre	SeCan members
TR 118	Univ. of Sask. —	
	Crop Development Centre	SeCan Members
Duel	Busch Ag. Res. Inc.	Alberta Wheat Pool
AC Oxbow	Ag Canada (Winnipeg, Brandon)	SeCan Members
Stein	Univ. of Sask. —	
	Crop Development Centre	United Grain Growers
Feed		
Abee	Alta Ag (Lacombe)	SeCan Members
Bridge	Ag Canada (Lethbridge)	SeCan Members
Brier	Univ. of Sask. —	
	Crop Development Centre	SeCan Members
Deuce	Univ. of Sask. —	
	Crop Development Centre	SeCan Members
CDC Guardian	Univ. of Sask. —	
	Crop Development Centre	SeCan Members
AC Lacombe	Ag Canada (Lacombe)	SeCan Members
Noble	Alta Ag (Lacombe)	SeCan Members
Virden	Ag Canada (Brandon)	SeCan Members
Hulless		
CDC Buck	Univ. of Sask. —	
	Crop Development Centre	United Grain Growers
Condor	Alta Ag (Lacombe)	SeCan Members
CDC Richard	Univ. of Sask. —	
	Crop Development Centre	United Grain Growers
Intensive Management		
Duke	Univ. of Sask. —	
	Crop Development Centre	SeCan Members
Samson	Alta Ag (Lacombe)	SeCan Members
Winchester	Western Plant Breeders;	
	Prairie Pools	Sask Wheat Pool
Oat		
Calibre	Univ. of Sask. —	
	Crop Development Centre	SeCan Members
Cascade	Ag Canada (Lacombe)	SeCan Members
Derby	Univ. of Sask. —	
	Crop Development Centre	United Grain Growers
Dumont	Ag Canada (Winnipeg)	SeCan Members
Jasper	Ag Canada (Lacombe)	SeCan Members
AC Marie	Ag Canada (Winnipeg)	SeCan Members
Robert	Ag Canada (Winnipeg)	SeCan Members
Waldern	Ag Canada (Lacombe)	SeCan Members
Canola		
Argentine		
AC Excel	Ag Canada (Saskatoon)	SeCan Members
Alto	Univ. of Alta.	Can Alta Grain,
		Canbra Foods Ltd.,
		Northern Sales
Bounty	Allelix/UGG	United Grain Growers
Celebra	Svalof; Bonis	Newfield Seeds,
		Canadian Seed
		Coaters
Delta	Allelix/UGG	United Grain Growers
HC 120	King Agro	Pride Dealers

Breeding Institutions and Seed Distributors of Varieties Listed in This Publication

Crop Kind, Class & Variety	Breeding Institution	Distributor	Crop Kind, Class & Variety	Breeding Institution	Distributor
Hyola 401	ICI Seeds Canada	ICI Seeds Canada	Patriot	Svalof; Bonis	Newfield Seeds
Legend	Svalof; Bonis	Sask Wheat Pool	Princess	Wilbur Ellis Co; CanMar Grain	Ron McKinnon Stu Robson
Profit	Ag Canada (Saskatoon)	SeCan Members			
Tribute (TT)	Ag Canada (Saskatoon; University of Guelph	SeCan Members	Radley	Booker Seeds Ltd; Columbia Seeds	Columbia Seeds (Alta.)
AC Tristar (TT) ...	Ag Canada (Saskatoon)	SeCan Members	AC Tamor	Ag Canada (Morden)	SeCan Members
Stallion (TT)	Svalof; Bonis	Sask Wheat Pool	Tara	Ag Canada (Morden)	SeCan Members
Vanguard	Svalof; Bonis	Newfield Seeds, Canadian Seed Coaters	Tipu	Ag Canada (Morden)	SeCan Members
		SeCan Members	Titan	Ag Canada (Morden)	SeCan Members
Westar	Ag Canada (Saskatoon)	SeCan Members	Topper	Ag Canada (Morden)	SeCan Members
			Trapper	Ag Canada (Morden)	public
Industrial Rapeseed			Trump	Ag Canada (Morden)	SeCan Members
Hero	Univ. of Manitoba	CSP Foods	Victoria	Svalof; Bonis	Newfield Seeds
			Yellowhead	Ad Canada (Morden)	Woodstone Foods Ltd
Polish					
Colt	Svalof; Bonis	Sask Wheat Pool	Lentil		
Eclipse	Univ. of Alberta	Alta. Wheat Pool	Eston	Univ. of Sask — Crop Development Centre	SeCan Members
Eldorado	Univ. of Alberta	United Grain Growers,	Indianhead	Univ. of Sask. — Crop Development Centre	SeCan Members
Goldrush	Allelix/UGG	United Grain Growers	Laird	Univ. of Sask. — Crop Development Centre	SeCan Members
Horizon	Svalof; Bonis	Sask Wheat Pool	Rose	Univ. of Sask. — Crop Development Centre	United Grain Growers
AC Parkland	Ag Canada (Saskatoon)	SeCan Members	Selection 8	Univ. of Sask. — Crop Development Centre	SeCan Members
Reward	Univ. of Manitoba	SeCan Members			
Tobin	Ag Canada (Saskatoon)	SeCan Members			
			Faba Bean		
Flax			Aladin	Univ. of Manitoba	public
Andro	Univ. of Sask — Crop Development Centre	SeCan Members	Orion	Ag Canada (Lacombe)	Roger Lee (Alta) Lyster Farms Ltd (Alta)
Flanders	Univ. of Sask. — Crop Development Centre	SeCan Members	Outlook	Univ. of Sask. — Crop Development Centre	SeCan Members
McGregor	Ag Canada (Morden)	SeCan Members	Pegasus	Univ. of Manitoba	Roy Legumex (Man)
NorLin	Ag Canada (Morden)	SeCan Members			
NorMan	Ag Canada (Morden)	SeCan Members	Pinto Bean		
Somme	Univ. of Sask. — Crop Development Centre	SeCan Members	Othello	USDA/ARS (Prosser, WA)	WA & ID seed dealers
Vimy	Univ. of Sask. — Crop Development Centre	SeCan Members			
			Canary Seed		
Mustard (Condiment)			Elias	Univ. of Minnesota; Univ. of Sask. — Crop Development Centre	public
Brown			Keet	Univ. of Minnesota; Univ. of Sask. — Crop Development Centre	public
Commercial		Trade			
Oriental			Safflower		
Cutlass	Ag Canada (Saskatoon)	Trade	Saffire	Ag Canada (Lethbridge)	Jerry Kubic (Alta)
Forge	ICI Seeds Canada	ICI Seeds Canada	AC Stirling	Ag Canada (Lethbridge)	SeCan Members
Lethbridge 22A ...	Ag Canada (Saskatoon)	Trade			
White					
Gisilba	Kurt Behm GMBH; Ag Canada (Saskatoon)	Northern Sales			
Kirby	Colman's of Norwich; Ag Canada (Saskatoon)	United Grain Growers			
Ochre	Ag Canada (Saskatoon)	Trade			
Tilney	Colman's of Norwich; Ag Canada (Saskatoon)	United Grain Growers			
Sunflower					
DO-707	Dahlgren and Company	farmer dealers			
DO-855	Dahlgren and Company	farmer dealers			
IS 7000	Interstate Seeds	Sask. Wheat Pool			
IS 7111	Interstate Seeds	Sask. Wheat Pool			
S 1296	Northrup King	farmer dealers			
6322	Pioneer	Pioneer			
Field Pea					
Bellevue	Univ. of Sask. — Crop Development Centre	SeCan Members			
Bohatyr	Seigen-Oseva	Sask. Wheat Pool			
Century	Ag Canada (Morden)	public			
Danto	L. Dsenfeldt	Brett Young Seeds			
Express	Svalof; Bonis	Newfield Seeds			
Fortune	Svalof; Bonis	Newfield Seeds			
Miranda	Cebeco; Manitoba Pool	Manitoba Pool			